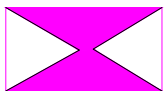
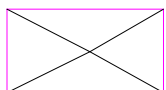
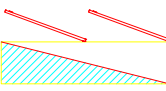


CLIENT NAME:	UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES. (UNHCR)		
TITLE	ELECTRICAL DETAIL DESIGN FOR APBN CAMP-16 REGISTRATION CENTER		
PROJECT NAME & ADDRESS:-		EPC CONTRACTOR:-	
 UNHCR The UN Refugee Agency APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH			

ELECTRICAL LEGENDS

SYMBOL	DESCRIPTION
	GENERATOR
	MAIN DISTRIBUTION BOARD (MDB)
	DISTRIBUTION BOARD (DB)
	SUB-DISTRIBUTION BOARD (SDB)
	CU BUSBAR
	INDICATION OF THREE PHASE LINE
	EARTHING / GROUNDING
	INDICATOR LAMP
	AMMETER
	VOLT METER
	HDPE CONDUIT PIPE
	LIGHTING ARRESTER (LA)
	INDICATION OF THREE PHASE LINE
	MCCB
	MCB

SYMBOL	CODE	DESCRIPTION
	SB	SWITCH BOARD
	EX	EMERGENCY EXIT SIGN LIGHT
	EF	EMERGENCY FOG LIGHT
	WL	WALL LIGHT (1X25W)
	EXF	EXHAUST FAN (60W)
	FD	FLOOD LIGHT (100W)
	TL	TUBE LIGHT (36W)
	CF	CEILING FAN (80W)
	P	POWER SOCKET
	STL	STREET LIGHT (50W)
	Q	AC POWER SOCKET (13 A)

CABLE SPECIFICATION:

C1 = 3X1CX1.5 SQMM. RM FRLS
C2 = 3X1CX2.5 SQMM. RM FRLS
C3 = 1X3CX6 SQMM. RM FRLS
C4 = 1X3CX2.5 SQMM. RM FRLS
C5 = 2X1CX4 + 1X1CX2,5 SQMM. RM FRLS

CONDUIT SPECIFICATION:

1X25mm DIA PVC PIPE FOR Cable: C1, C2, C5
1X50mm DIA PVC PIPE FOR Cable: C3
1X40mm DIA HDPE PIPE FOR Cable: C4

Drawing Title	Project Name & Address	Client Name	EPC Contractor:	Drawing By:	Design Engineer:	Signature	Checked By:	Sheet No:
ELECTRICAL LEGENDS	APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH	 UNHCR United Nations High Commissioner for Refugees.						02 OF 16
								DATE:
								25-08-2026

THE COMPLETE ELECTRICAL POWER SYSTEM DESIGN AND INSTALLATION SHALL CONFORM TO LATEST EDITION OF BS 7671, IEC STANDARD AND AS PER LOCAL AUTHORITY REGULATION. ALL ELECTRICAL EQUIPMENT, APPARATUS, ACCESSORIES AND FITTINGS SHALL BE DESIGNED AND MANUFACTURED TO OPERATE CONTINUOUSLY IN THE ELECTRICITY SUPPLY SYSTEM OF LOCAL AUTHORITY AND DIESEL GENERATOR.

ONE EARTHING SYSTEMS SHALL BE PROVIDED HAVING THE FOLLOWING CHARACTERISTICS (AS CONFIRMED/APPROVED BY CLIENTS/ENGINEER) A DEDICATED EARTH SYSTEM SHALL BE PROVIDED FOR THE GENERAL LV INSTALLATION INCLUDING SUPPLIES SERVING

4. THE INSTALLATION WITHIN THE FRONT OF HOUSE AREAS SHALL BE FLUSH MOUNTED WITH SERVICES CONCEALED WITHIN THE BUILDING FABRIC / WITHIN FALSE CEILING VOID. THE INSTALLATION WITHIN THE BACK OF HOUSE AREAS SUCH AS STORES AND PLANT ROOMS SHALL BE A SURFACE MOUNTED INSTALLATION.
5. ALL FINAL DISTRIBUTION BOARDS SHALL HAVE SUITABLE EARTH LEAKAGE PROTECTIONS FOR FINAL CIRCUITS AS PER LOCAL AUTHORITIES REGULATION / BS STANDARDS.
6. EXACT LOCATION OF POWER POINTS FOR MECHANICAL AND OTHER EQUIPMENT SHALL BE CO-ORDINATED AT SITE BASED ON THE ACTUAL LOCATION OF THE EQUIPMENT.
7. FOR LOAD DISTRIBUTION SCHEME, REFER TO ELECTRICAL SCHEMATIC DRAWINGS.
8. POWER LAYOUTS, SCHEMATIC DIAGRAMS AND DETAILS SHOWN IN THE DRAWINGS INDICATE THE DESIGN INTENT. CONTRACTOR SHALL GENERATE INSTALLATION DRAWINGS FOR CLIENT/ENGINEER REVIEW PRIOR TO INSTALLATION.
9. ALL SOCKET OUTLET FIXING DETAILS SHALL BE COORDINATED WITH STEEL STRUCTURE / WALL / INTERIOR FINISHES DETAILS.
10. ALL DB'S SHALL BE COVERED WITH DOOR NECESSARILY REQUIRED AS PER LOCAL AUTHORITY REGULATION.
11. CONTRACTOR TO PRODUCE FINAL INSTALLATION DRAWING FOR CLIENT/ENGINEER REVIEW PRIOR TO INSTALLATION.
12. ANY DEVIATION IN DRAWINGS, SPECIFICATION AND OTHER DOCUMENTS SHALL BE BROUGHT CLIENTS/ENGINEER REVIEW BEFORE INSTALLATION.
13. THE CONTRACTOR SHALL ENSURE THAT THE EQUIPMENT OFFERED CAN BE FITTED INTO THE SPACE ALLOCATED WITH PROPER MAINTENANCE ACCESSIBILITY.
14. AN EARTHING SYSTEM INTERCONNECTING ALL MAIN AND SUB-MAIN DISTRIBUTION BOARDS SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL AUTHORITY REGULATION AND AS PER LOCAL AUTHORITY REGULATION/ BS STANDARDS.
15. THE CONTRACTOR SHALL SUPPLY AND INSTALL MAIN AND LOCAL SUPPLEMENTARY EQUIPMENTAL BONDING CONDUCTORS IN ACCORDANCE WITH IEEE REGULATION. THE MAIN PARTS OF OTHER SERVICES WITHIN THE PREMISES INCLUDING MAIN WATER PIPES, OTHER SERVICE PIPES, EXPOSED METALLIC PARTS OF THE BUILDING STRUCTURE LIABLE TO INTRODUCE AN EARTH POTENTIAL TO THE MAIN EARTHING TERMINAL.
16. CABLE TRAY TO BE INSTALLED AS COMPLETE SYSTEM. THIS SHALL INCLUDE THE NECESSARY ACCESSORIES.
17. CABLE TRAYS SHALL BE SUPPORTED AT REGULAR INTERVALS AS SPECIFIED.
18. CABLE TRAYS AND TRAY FITTINGS SHALL BE HOT DIPPED GALVANIZED STEEL.
19. CABLE TRAYS IN EXTERNAL AREA SHALL BE PROVIDED WITH COVER PROTECTION.
20. ALL CABLES/CONDUITS PASSING THROUGH A WALL OR FLOOR SHALL BE CONCEALED

21. REQUIRED CLEARANCES BETWEEN LV AND ELV CABLE TRAYS/TRUNKINGS SHALL BE MAINTAINED AS PER LOCAL AUTHORITY REGULATION.
22. ALL THE IT EQUIPMENT SHOULD BE CONNECTED TO DEDICATED EARTH ELECTRODES.
23. SUFFICIENT CLEARANCES SHALL BE MAINTAINED FOR THE ACCESSIBILITY OF PANEL BOARDS / ELECTRICAL EQUIPMENT AS PER LOCAL AUTHORITY REGULATION.
24. THE CONTRACTOR SHALL ALLOW FOR POWER UV PROTECTION WITH BREAKER
25. ATLEAST 20% OF SPARE CAPACITY OF SWITCHGEARS SHOULD BE ENSURED IN ALL PANEL BOARDS FOR FUTURE USE.
26. ALL SC (SHORT CIRCUIT) RATING OF CIRCUIT BREAKERS SHALL CORRESPOND TO THE SERVICE BREAKING CAPACITY (ICS) OF THE RESPECTIVE CIRCUIT BREAKER.
27. ALL SPARE BREAKER IN THE LV PANEL & MDB SHALL HAVE THE FACILITY TO BE LOCKED.
28. ALL PORTABLE MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH BREAKER
29. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT SPECIFICATIONS.
30. ALL ELECTRICAL POWER DRAWINGS SHALL BE READ WITH THE RELEVANT IT, ELV, STRUCTURAL AND MECHANICAL DRAWINGS/SPECIFICATIONS.
31. ALL CABLE TRAY SHALL BE INSPECTED FOR BURRS, SHARP EDGES OR OTHER DEFECTS AND SHALL BE CORRECTED PRIOR TO INSTALLATION. IF FOUND ANY .
32. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING OF CABLE TRAYS TO ALLOW COMPLETION OF STRAIGHT, SLOPE & VERTICAL RUNS. CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF CABLE TRAYS. AT NO POINT CABLE TRAYS SHALL BE WELDED.
33. ALL CABLE TRAYS PENETRATING WALLS OR FLOORS SHALL HAVE WALL CUTOUT
34. ALL CABLE TRAYS FIELD CUTS , DRILLED EXPOSED PARTS & DAMAGED GALVANISED AREA SHALL BE COATED WITH APPROVED TOUCH UP GALVANISING MATERIAL.
35. FAULT LEVEL IS CALCULATED ON ASSUMPTION BASIS WHICH IS TO BE VERIFIED BY CONTRACTOR AT SITE.
36. FAULT LEVEL AT MDB LEVEL IS CONSIDERED AS 30KA AND AT EPP,SMDB ETC IS 20KA. HOWEVER IT NEEDS TO BE VERIFIED BY THE CONTRACTOR WITH ACTUAL PARAMETER AND BROUGHT TO THE NOTICE OF CLIENT/ENGINEER INCHARGE FOR ANY DEVIATION WITH DRAWINGS/BOQ.

37. THE EARTHING SHALL BE DONE AS PER LOCAL AUTHORITIES REQUIREMENTS & BRITISH STANDARDS BS 7430.
38. CONSIDERATION FOR EARTHING :
 - a) 1 NO.S BODY EARTHING (Cu) FOR PANEL.
 - b) 1 NO.S EARTHING (Cu) FOR LIGHTNING PROTECTION.
39. EARTHING PIT RESISTANCE NEEDS TO BE KEPT AT LESS THAN EQUAL TO 1 OHM. CONTRACTOR IS REQUIRED TO GIVE THE CERTIFICATE STATING THE EARTHING PITS RESISTANCE TO CLIENT/ENGINEER INCHARGE.

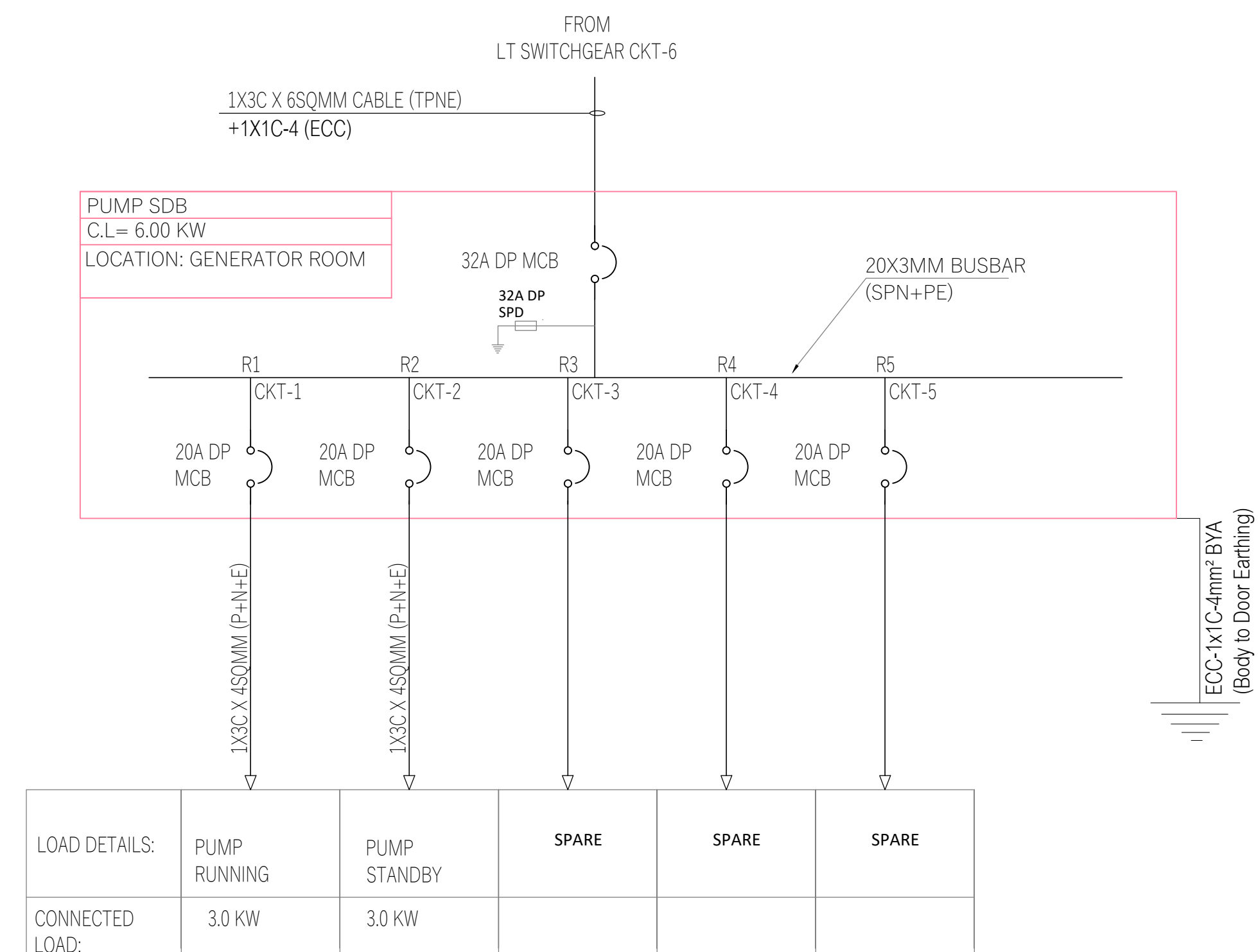
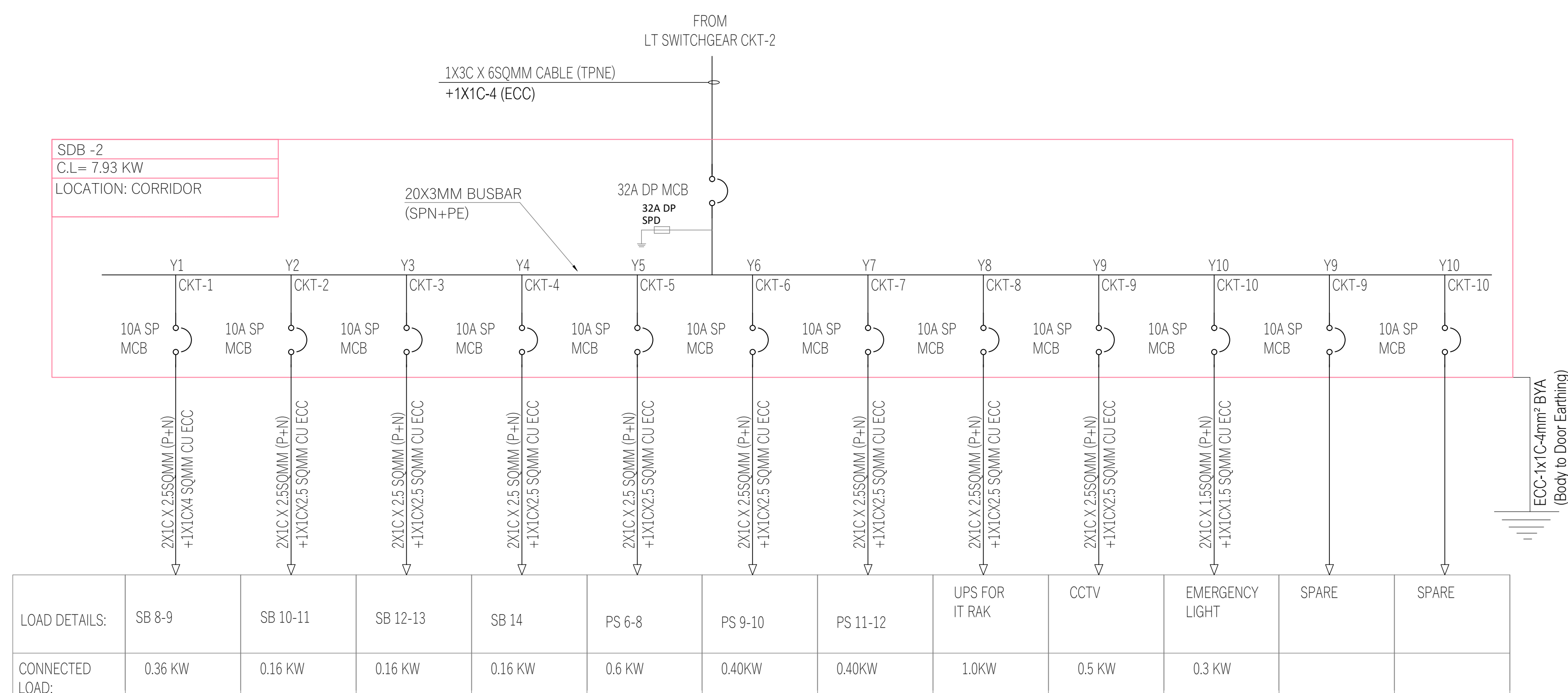
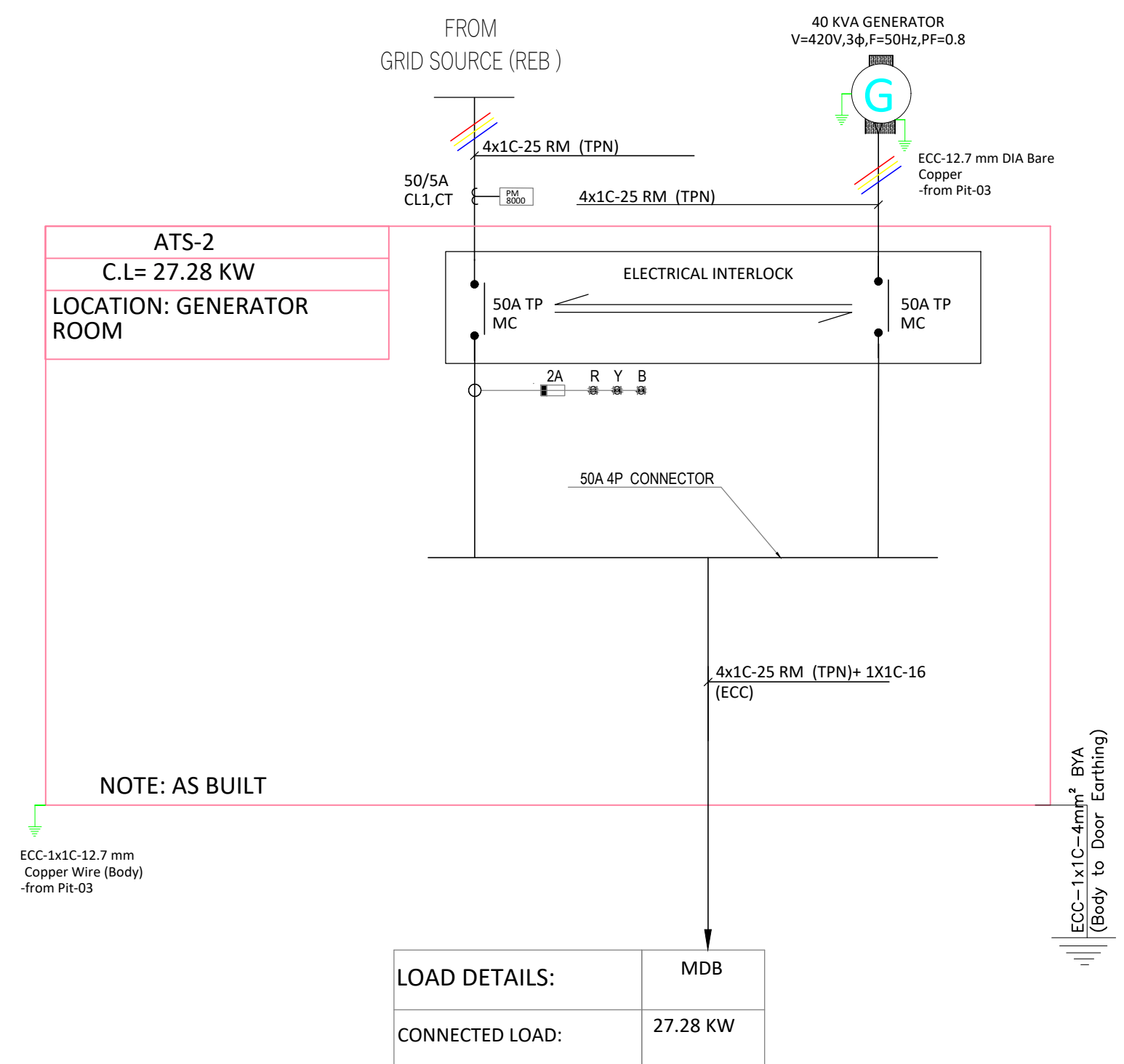
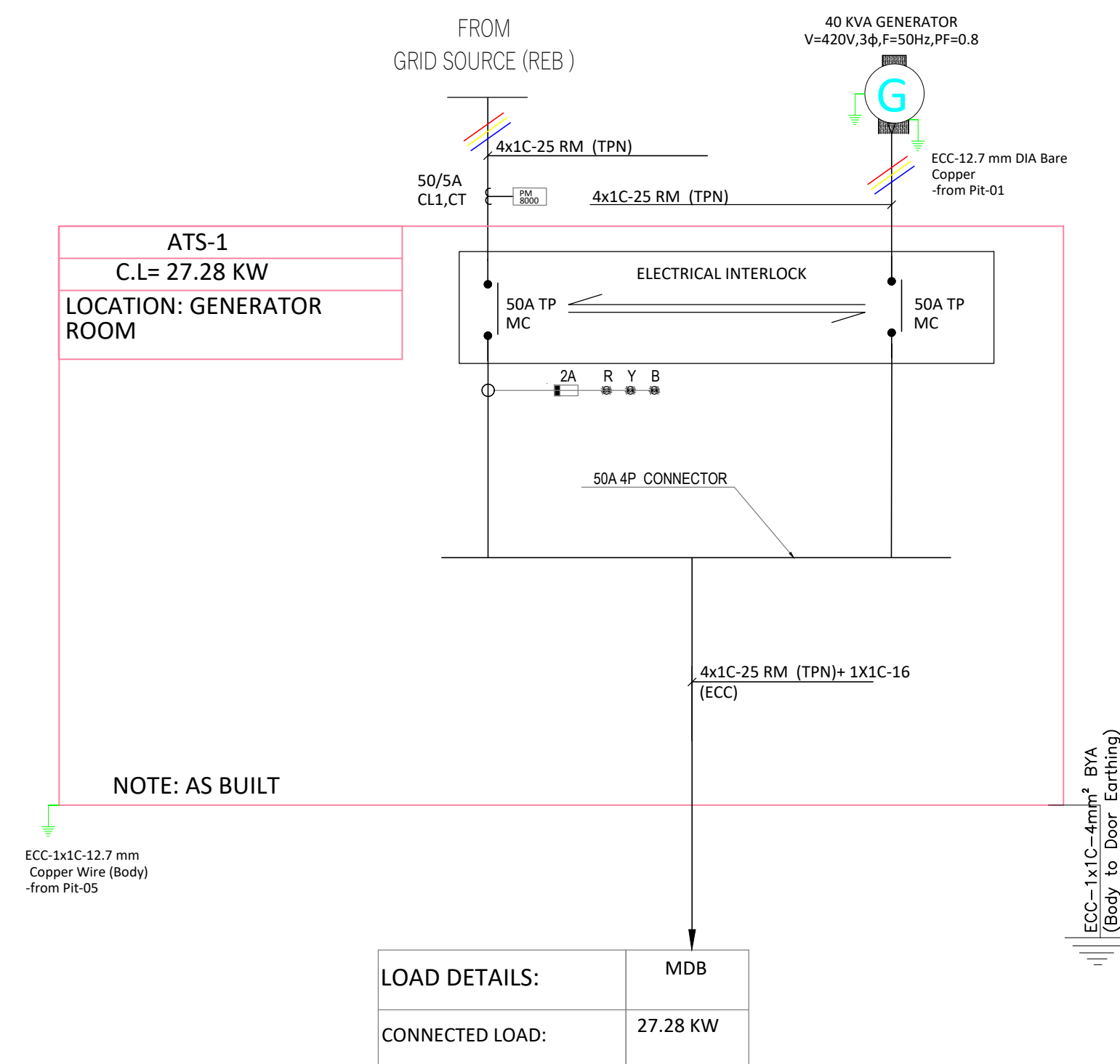
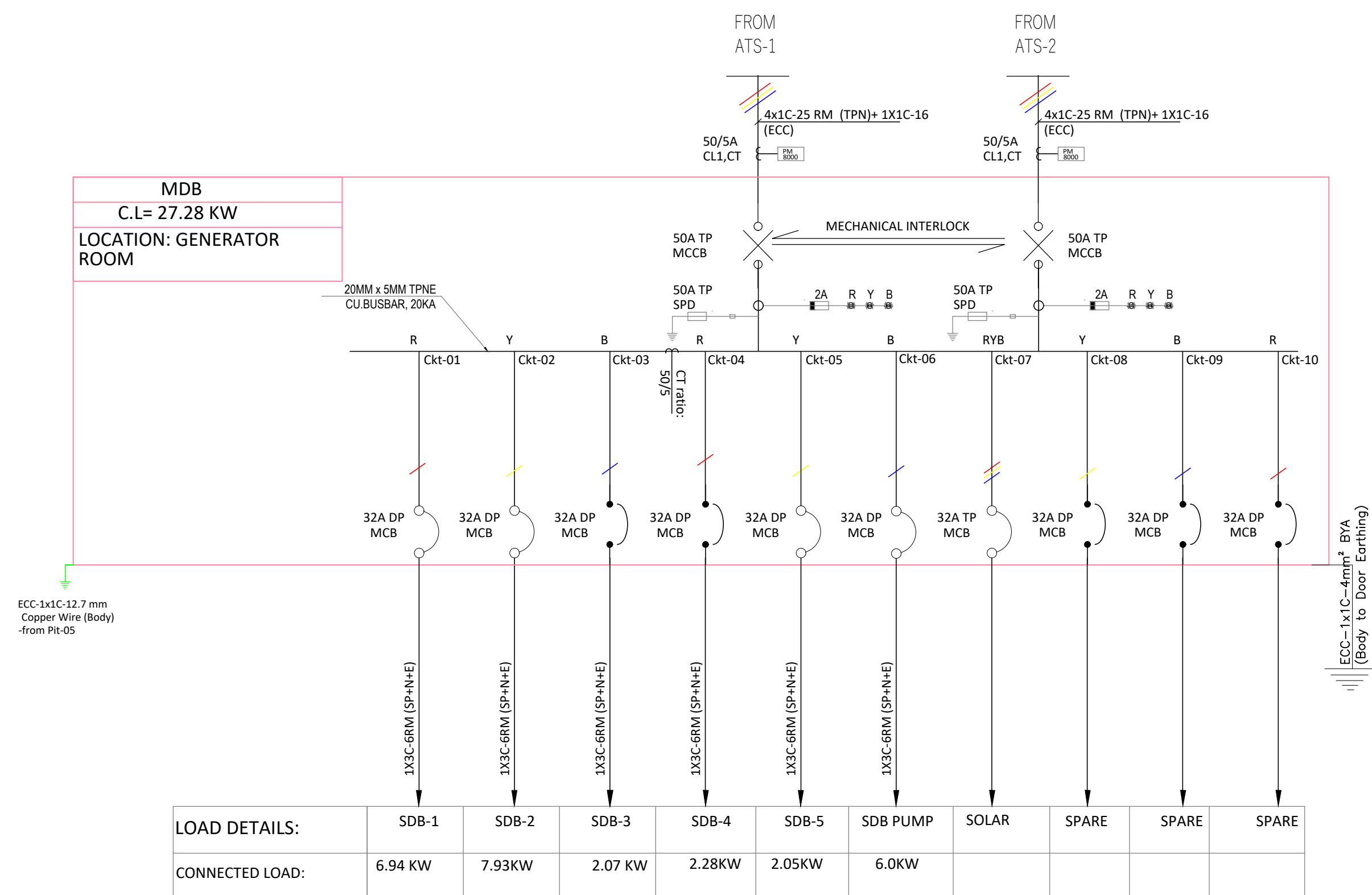
1. LIGHTNING PROTECTION EARTH PITS SHALL HAVE A COMBINED RESISTANCE TO EARTH NOT EXCEEDING 10 OHMS. ALL THE LIGHTNING PROTECTION EARTH PITS SHALL BE INTER CONNECTED AT THE LOWEST / GROUND LEVEL WITH CABLES IN PIPE
2. ALL THE MATERIALS USED FOR THE LIGHTNING SYSTEM SHALL ENSURE NO CORROSION DUE TO CHEMICAL, ELECTROLYTIC OR OTHER CAUSE.
3. LIGHTNING PROTECTION LAYOUT AND DETAILS AS SHOWN IN THE DRAWINGS INDICATE THE DESIGN INTENT ONLY. CONTRACTOR SHALL GENERATE INSTALLATION DRAWINGS BEFORE EXECUTION FOR THE APPROVAL OF CLIENT/ENGINEER.
4. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT SPECIFICATION.
5. LIGHTNING PROTECTION DRAWING SHALL BE READ IN CONJUNCTION WITH ALL MEP, CIVIL, STRUCTURAL AND ARCHITECTURAL DRAWINGS.
6. CONTRACTOR TO PRODUCE FINAL INSTALLATION DRAWING FOR CLIENT/ENGINEERS REVIEW PRIOR TO INSTALLATION.
7. ANY DEVIATION IN DRAWINGS, SPECIFICATION AND OTHER DOCUMENTS SHALL BE BROUGHT TO CLIENT/ENGINEERS REVIEW BEFORE INSTALLATION.
8. THE CONTRACTOR SHALL COMPLETE A LIGHTNING PROTECTION STUDY TO DETERMINE THE REQUIRED LIGHTING PROTECTION LEVEL (LPL) AND LIGHTNING PROTECTION SYSTEM (LPS) FOR THE CLIENT/ENGINEERS.

1. LIGHTING DESIGN AND INSTALLATION WORKS SHALL CONFORM TO LATEST EDITION OF BRITISH STANDARD BS EN 12464-1, CIBSE, IEC, LOCAL AUTHORITIES REQUIREMENTS & LIGHTING GUIDES.
2. THE DESIGN AND INSTALLATION SHALL ALSO CONFORM TO THE LATEST EDITION OF BRITISH STANDARD BS 7671, IEC AND LOCAL AUTHORITIES REQUIREMENTS.
3. ALL LUMINAIRES SHALL BE SUBJECT TO THE FINAL REVIEW OF THE CLIENTS/ENGINEERS. SAMPLES SHALL BE PROVIDED FOR CLIENT/ENGINEER'S REVIEW PRIOR TO PROCUREMENT.
4. THE PRESENT LOCATION OF LUMINAIRES SHOWN IN DRAWING ARE INDICATIVE ONLY AND TO BE CO-ORDINATED WITH FINAL ARCHITECTURAL DRAWINGS & WITH FINAL CEILING PLAN DRAWINGS.
5. A FINAL CO-ORDINATED CEILING LAYOUT PLAN INCORPORATING ALL SERVICES DEVICES SHALL BE PROVIDED BY THE CONTRACTOR FOR THE CLIENT/ENGINEERS REVIEW PRIOR TO INSTALLATION.
6. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH RELEVANT SPECIFICATIONS.
7. ALL LIGHTING DRAWINGS SHALL BE READ WITH THE RELEVANT STRUCTURAL, MECHANICAL, AND OTHER ELECTRICAL DRAWINGS.
8. BULKHEAD LIGHT AND POWER POINT IN LIFT WELL WILL BE PLACED AT ALTERNATE FLOOR (STARTING FROM GROUND FLOOR LEVEL)

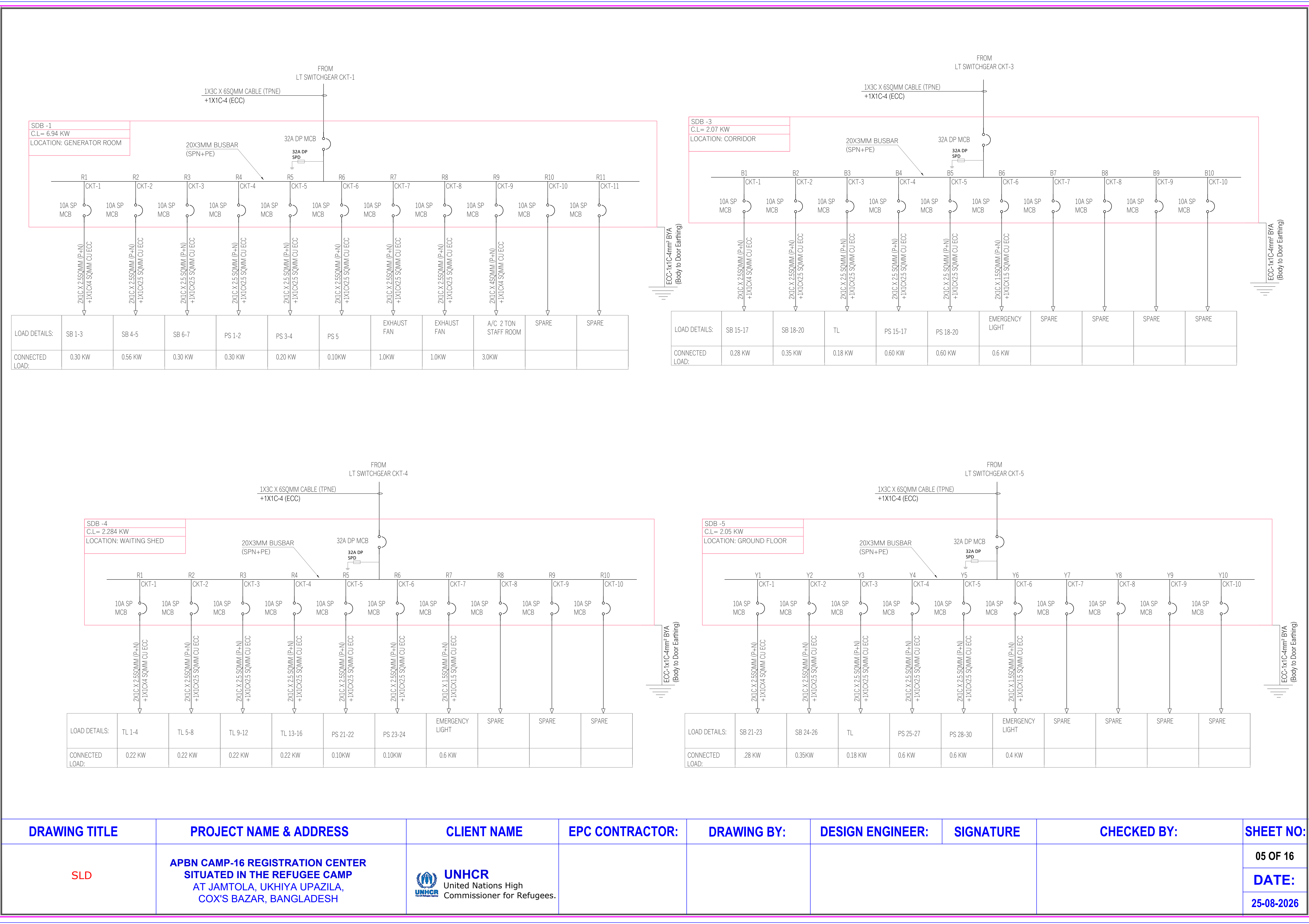
SP	SINGLE POLE
DP	DOUBLE POLE
TP	THREE POLES
4P	FOUR POLES
A	AMPERE
AC	ALTERNATING CURRENT
AL	ALUMINIUM
AUTO	AUTOMATIC
B/B	BUSBAR
BACS	BUILDING AUTOMATION CONTROL SYSTEM
BAT	BATTERY
BMS	BUILDING MANAGEMENT SYSTEM
BS	BRITISH STANDARD
CA	CABLE
CAP	CAPACITOR/CAPACITANCE
CB	CIRCUIT BREAKER
CBP	CENTRAL BATTERY PANEL
CFS	COMBINED FUSE SWITCH
CONN	CONNECTOR
CPU	CENTRAL PROCESSING UNIT
CT	CURRENT TRANSFORMER
CU	COPPER
D/A	DIGITAL TO ANALOG CONVERTER
DB	DISTRIBUTION BOARD
DC	DIRECT CURRENT
EXF	EXHAUST FAN
ELCB	EARTH LEAKAGE CIRCUIT BREAKER
ELEC	ELECTRICAL
ELV	EXTRA LOW VOLTAGE
FD	FLOOD LIGHT
FF	FIRE FIGHTING
FO	FIBRE OPTIC
GEN	GENERATOR
GND	GROUND
HD	HAND DRYER
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HZ	HERTZ
I	INTENSITY
I/F	INTERFACE
I/O	INPUT/OUTPUT
ICC	INTEGRATED CONTROL CENTRE
ID	IDENTIFICATION
IT	ISOLATING TRANSFORMER
JB	JUNCTION BOX
kV	KILOVOLT
kVA	KILOVOLT-AMPERE
kVAH	KILOVOLT-AMPERE HOUR
kWH	KILOWATT HOUR
LAN	LOCAL AREA NETWORK
LED	LIGHTING EMITTING DIODE
LSOH	LOW SMOKE HALOGEN FREE
LSC	LIGHTING SWITCHING CONTROL
LSF	LOW SMOKE AND FUME
LV	LOW VOLTAGE
MA	MILI AMPERE
mV	MILIVOLT
MV	MEDIUM VOLTAGE
MCB	MINIATURE CIRCUIT BREAKER

- | | |
|-------|------------------------------|
| MCCB | MOULDED CASE CIRCUIT BREAKER |
| MCP | MASTER CONTROL PANEL |
| MDP | MAIN DISTRIBUTION BOARD |
| MISC | MISCELLANEOUS |
| MT | MOTOR |
| N | NEUTRAL |
| NO | NUMBER |
| OF | OFFICE |
| OL | OUTDOOR LIGHTING |
| PFM | POWER FACTOR METER |
| PH | PHASE |
| PLC | PROGRAMMABLE LOGIC CONTROL |
| PMU | PERFORMANCE MONITORING UNIT |
| PN | PANEL |
| POS | POSITIVE |
| PE | PROTECTION EARTH |
| PF | POWER FACTOR |
| PRI | PRIMARY |
| PS | POWER SOCKET |
| PSM | POWER SUPPLY MODULE |
| PT | POTENTIAL TRANSFORMER |
| PVC | PLYVINYL CHLORIDE |
| P | POLE |
| PB | PUSH BUTTON |
| | |
| RIO | REMOTE INPUT/ OUTPUT |
| PWR | POWER |
| R | RELAY |
| RM | ROUNDED MULTI CONDUCTOR |
| | |
| RL | ROAD LIGHTING |
| | |
| RPM | REVOLUTION PER MINUTE |
| s | SECOND |
| SC | SIGNALLING & COMMUNICATION |
| SCB | SELF-CONTAINED BATTERY |
| SCP | SWITCHING CONTROL PANEL |
| LT | LIGHTING |
| S MDB | SUB-MAIN DISTRIBUTION BOARD |
| SO | SOCKET OUTLET |
| SP | SPARE |
| SPD | SURGE PROTECTION DEVICE |
| SPS | SUBSTATION POWER SUPPLY |
| SW | SWITCH |
| SWA | STEEL WIRE ARMoured |
| STL | SOLAR STREET LIGHT |
| SYM | SYMBOL |
| TPS | TRACTION POWER SUPPLY |
| V | VOLT |
| VA | VOLT - AMPERE |
| VAC | VOLT ALTERNATING CURRENT |
| VFD | VARIABLE FREQUENCY DRIVE |
| W | WATT |
| WS | WORKSTATION |
| XLPE | CROSS LINKED POLYENTHYLENE |
| Z | IMPEDANCE |
| ΔT | TEMPERATURE DIFFERENTIAL |
| Ø | DIAMETER |

DRAWING TITLE	PROJECT NAME & ADDRESS	CLIENT NAME	EPC CONTRACTOR:	DRAWING BY:	DESIGN ENGINEER:	SIGNATURE	CHECKED BY:	SHEET NO:
NOTES AND ABBREVIATION	APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH	 UNHCR United Nations High Commissioner for Refugees.						03 OF 16
								DATE:
								25-08-2026



DRAWING TITLE	PROJECT NAME & ADDRESS	CLIENT NAME	EPC CONTRACTOR:	DRAWING BY:	DESIGN ENGINEER:	SIGNATURE	CHECKED BY:	SHEET NO:
SLD	APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH	 UNHCR United Nations High Commissioner for Refugees.						04 OF 16
								DATE:
								25-08-2026



ATS PANEL-1 &2, LOCATION: SUB STATION, FEED FROM REB AND 40KVA GENERATOR 1 &2 , Cable Size:4C-25 RM,NYY(TPN) CU														SLD PAGE-04		
Main Incoming Ckt.	CKT REF.	Breaker MCCB/MCB Rat/Amp	Phase Neutral Size(rm)	Earth Size(rm)	Cable Conductor	Load Type	Point Reference	Number of Points/ Pes	Watt Per Point	Location	Total Watt	Phase Load in KW			Remarks	
50A TP MCCB ELECTRICAL INTERLOCK WITH 50A TP MCCB	RYB1	50A TP MCCB	1X4CX25	1X1CX16	CU	MDB		1	27278	GENERATOR ROOM	27278.00	9.23	9.98	8.07		
												9.23	9.98	8.07		
								Total Connected Load=				27.28	KW			
								DIVERCITY FACTOR FOR THIS SDB(70%)				19.0946	KW		34.37	
											Voltage Drop (%)			1.02	%	
MDB, LOCATION: SUB STATION, FEED ATS , Cable Size:4C-25 RM,NYY(TPN) CU															SLD PAGE-04	
Main Incoming Ckt.	CKT REF.	Breaker MCCB/MCB Rat/Amp	Phase Neutral Size(rm)	Earth Size(rm)	Cable Conductor	Load Type	Point Reference	Number of Points/ Pes	Watt Per Point	Location	Total Watt	Phase Load in KW			Remarks	
50A TP MCCB	R1	32A DP MCB	1X3CX6	1X1CX4	CU	SDB-1		1	6944	GENERATOR ROOM	6944.00	6.94				
	Y2	32A DP MCB	1X3CX6	1X1CX4	CU	SDB-2		1	7930	CORRIDOR	7930.00		7.93			
	B3	32A DP MCB	1X3CX6	1X1CX4	CU	SDB-3		1	2070	CORRIDOR	2070.00			2.07		
	R4	32A DP MCB	1X3CX6	1X1CX4	CU	SDB-4		1	2284	WAITING SHED	2284.00	2.28				
	Y5	32A DP MCB	1X3CX6	1X1CX4	CU	SDB-5		1	2050	CORRIDOR	2050.00		2.05			
	B6	32A DP MCB	1X3CX6	1X1CX4	CU	PUMP SDB	Pump	1	6000	GENERATOR ROOM	6000			6.00		
	RYB7	32A DP MCB	1X3CX6	1X1CX4		SOLAR PROVISION					0	0.00				
	Y8	32A TP MCB	1X3CX6	1X1CX4							0	0.00				
	B9	32A DP MCB										0.00				
	R10	32A DP MCB										0.00				
												9.23	9.98	8.07		
												27.28 KW				
												19.0946 KW			34.37	
												Voltage Drop (%)			0.1	%
SDB-1 , LOCATION: GENERATOR ROOM , F.F LT PANEL, Ckt.-No : 1 Cable Size:1x3C-6 RM, NYY(SPN) CU + 1 X 1C X 4 RM BYA (ECC) CU															SLD PAGE-05	
Main Incoming Ckt.	CKT REF.	Breaker MCCB/MCB Rat/Amp	Phase Neutral Size(rm)	Earth Size(rm)	Cable Conductor	Load Type	Point Reference	Number of Points/ Pes	Watt Per Point	Location	Total Watt	Phase Load in KW			Remarks	
32A DP MCB	R1	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL CF	SB 1-2	1		APBN	304	0.30				
	R2	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL CF	SB 3-5	1		GENERATOR ROOM/FILLING ROOM	564	0.56				
	R3	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL CF	SB 6-7	1		STAF ROOM	576	0.58				
	R4	10A SP MCB	2X1CX2.5	1CX2.5	CU	Power Socket	PS 1-2	1			200	0.20				
	R5	10A SP MCB	2X1CX2.5	1CX2.5	CU	Power Socket	PS 3-4	1		STAF ROOM	200	0.20				
	R6	10A SP MCB	2X1CX2.5	1CX2.5	CU	Power Socket	PS 5	1			100	0.10				
	R7	10A SP MCB	2X1CX2.5	1CX2.5	CU	EXHAUST FAN		1		GENERATOR ROOM	1000	1.00				
	R8	10A SP MCB	2X1CX2.5	1CX2.5	CU	EXHAUST FAN		1		GENERATOR ROOM	1000	1.00				
	R9	10A SP MCB	2X1CX4	1CX4	CU	A/C 2 TON	Q1, Q2	1		STAFF ROOM	3000	3.00				
	R10	10A SP MCB	SPARE										0.00			
	R11											6.94	0.00	0.00	6.944	
	R12											6.944 KW				
												4.8608 KW			15.94	
											0.76			%		
SDB-2 , LOCATION: CORRIDOR , F.F LT PANEL Ckt.-No :02 Cable Size: 1x3C- 6 RM,NYY(SP+N)1x1C- 4 RM,NYY(ECC)															SLD PAGE-04	
Main Incoming Ckt.	CKT REF.	Breaker MCCB/MCB Rat/Amp	Phase Neutral Size(rm)	Earth Size(rm)	Cable Conductor	Load Type	Point Reference	Number of Points/ Pes	Watt Per Point	Location	Total Watt	Phase Load in KW			Remarks	
32A DP MCB	Y1	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL,WL,CF	SB 8-9	1	1032	SECURITY CABIN	1032		1.03			
	Y2	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL,WL,CF	SB 10	1	156	GROUND FLOOR	156		0.16			
	Y3	10A SP MCB	2X1CX2.5	1CX2.5		TL,WL,CF	SB 11-12	1	156	INTERVIEW ROOM	156		0.16			
	Y4	10A SP MCB	2X1CX2.5	1CX2.5			SB 13-14	1	156	INTERVIEW ROOM	156		0.16			
	Y5	10A SP MCB	2X1CX2.5	1CX2.5		Power socket	PS 6-8	3	200	INTERVIEW ROOM	600		0.60			
	Y6	10A SP MCB	2X1CX2.5	1CX2.5		Power socket	PS 9-10	2	200	INTERVIEW ROOM	400		0.40			
	Y7	10A SP MCB	2X1CX2.5	1CX2.5		Power socket	PS 10-11	2	200		400		0.40			
	Y8	16A SP MCB	2X1CX2.5	1CX2.5		UPS FOR SERVER	PS 13	1	2000		2000		2.00			
	Y9	16A SP MCB	2X1CX2.5	1CX2.5		CCTV CAMERA RAK	PS 14	1	1500		1500		1.50			
	Y10	10A SP MCB	2X1CX1.5	1CX1.5		Emergency Light		3	10		30		0.03			
	Y11	10A SP MCB	2X1CX4	1CX4	CU	A/C	Q3	1	1500	DOCUMENT	1500		1.50			
	Y12	10A SP MCB				Spare	Total Phase Load/KW=				0.00	7.93	0.00	7.930		
	Y13	10A SP MCB				Spare					7.930	KW				

DRAWING TITLE	PROJECT NAME & ADDRESS	CLIENT NAME	EPC CONTRACTOR:	DRAWING BY:	DESIGN ENGINEER:	SIGNATURE	CHECKED BY:	SHEET NO:
CABLE SCHEDULE 1 OF 3	APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH	 UNHCR United Nations High Commissioner for Refugees.						08 OF 16
								DATE:
								25-08-2026

SDB-3 , LOCATION: CORRIDOR , F.F LT PANEL Ckt.-No :03 Cable Size: 1x3C- 6 RM,NYY(SP+N)1x1C- 4 RM,NYY(ECC)																SLD PAGE-05			
Main Incoming Ckt.	CKT REF.	Breaker MCCB/MCB Rat/Amp	Phase Neutral Size(rm)	Earth Size(rm)	Cable Conductor	Load Type	Point Reference	Number of Points/ Pcs	Watt Per Point	Location	Total Watt	Phase Load in KW			Remarks				
												R	Y	B					
32A DP MCB	B1	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL,CF	SB 15-17	3	116	INTERVIEW ROOM	282			0.28					
	B2	16A SP MCB	2X1CX2.5	1CX2.5	CU	TL,CF	SB 18-20	3	116	INTERVIEW ROOM	348			0.35					
	B3	16A SP MCB	2X1CX2.5	1CX2.5	CU	TL	TL	5	36	CORRIDOR	180			0.18					
	B4	10A SP MCB	2X1CX2.5	1CX2.5	CU		PS 15-17	3	200	INTERVIEW ROOM	600			0.60					
	B5	10A SP MCB	2X1CX2.5	1CX2.5	CU		PS 18-20	3	200	INTERVIEW ROOM	600			0.60					
	B6	10A SP MCB	2X1CX1.5	1CX1.5	CU	Emergency Light		6	10	INTERVIEW ROOM	60			0.06					
	B7	10A SP MCB					SPARE				0			0.00					
	B8	10A SP MCB					SPARE				0			0.00					
	B9	10A SP MCB					SPARE							0.00					
	B10	10A SP MCB					SPARE							0.00					
								Total Phase Load/KW=					0.00	0.00	2.07	2.070			
								Total Connected Load=					2.070		KW				
							DIVERCITY FACTOR FOR THIS SDB(70%)					1.449		KW	4.75				
							Voltage Drop (%)					1.13		%					
SDB-4 , LOCATION: CORRIDOR , F.F LT PANEL Ckt.-No :04 Cable Size: 1x3C- 6 RM,NYY(SP+N)1x1C- 4 RM,NYY(ECC)																		SLD PAGE-05	
Main Incoming Ckt.	CKT REF.	Breaker MCCB/MCB Rat/Amp	Phase Neutral Size(rm)	Earth Size(rm)	Cable Conductor	Load Type	Point Reference	Number of Points/ Pcs	Watt Per Point	Location	Total Watt	Phase Load in KW			Remarks				
												R	Y	B					
32A DP MCB	R1	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL	TL	12	36	WAITING SHED	432	0.43							
	R2	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL	TL	12	36	WAITING SHED	432	0.43							
	R3	10A SP MCB	2X1CX2.5	1CX2.5	CU	CF	CF	6	80	WAITING SHED	480	0.48							
	R4	10A SP MCB	2X1CX2.5	1CX2.5	CU	CF	CF	6	80	WAITING SHED	480	0.48							
	R5	10A SP MCB	2X1CX2.5	1CX2.5	CU		PS 21-22	2	100		200	0.20							
	R6	10A SP MCB	2X1CX2.5	1CX2.5	CU		PS 23-24	2	100		200	0.20							
	R7	10A SP MCB	2X1CX1.5	1CX1.5	CU	Emergency Light		6	10		60	0.06							
	R8	10A SP MCB	SPARE									0.00							
	R9	10A SP MCB	SPARE									0.00							
	R10	10A SP MCB	SPARE									0.00							
								Total Phase Load/KW=					2.28	0.00	0.00	2.284			
								Total Connected Load=					2.284		KW				
							DIVERCITY FACTOR FOR THIS SDB(70%)					1.5988		KW	5.24				
							Voltage Drop (%)					1.24		%					
SDB-5 , LOCATION: CORRIDOR , F.F LT PANEL Ckt.-No :05 Cable Size: 1x3C- 6 RM,NYY(SP+N)1x1C- 4 RM,NYY(ECC)																		SLD PAGE-05	
Main Incoming Ckt.	CKT REF.	Breaker MCCB/MCB Rat/Amp	Phase Neutral Size(rm)	Earth Size(rm)	Cable Conductor	Load Type	Point Reference	Number of Points/ Pcs	Watt Per Point	Location	Total Watt	Phase Load in KW			Remarks				
												R	Y	B					
32A DP MCB	Y1	10A SP MCB	2X1CX2.5	1CX2.5	CU	TL,CF	SB 21-23	3	116	INTERVIEW ROOM	282		0.28						
	Y2	16A SP MCB	2X1CX2.5	1CX2.5	CU	TL,CF	SB 24-26	3	116	INTERVIEW ROOM	348		0.35						
	Y3	16A SP MCB	2X1CX2.5	1CX2.5	CU	TL	TL	5	36	CORRIDOR	180		0.18						
	Y4	10A SP MCB	2X1CX2.5	1CX2.5	CU		PS 25-27	3	200	INTERVIEW ROOM	600		0.60						
	Y5	10A SP MCB	2X1CX2.5	1CX2.5	CU		PS 28-30	3	200	INTERVIEW ROOM	600		0.60						
	Y6	10A SP MCB	2X1CX1.5	1CX1.5	CU	Emergency Light		4	10	INTERVIEW ROOM	40		0.04						
	Y7	10A SP MCB					SPARE				0		0.00						
	Y8	10A SP MCB					SPARE				0		0.00						
	Y9	10A SP MCB					SPARE						0.00						
	Y10	10A SP MCB					SPARE												
								Total Phase Load/KW=					0.00	2.05	0.00	2.050			
								Total Connected Load=					2.050		KW				

DRAWING TITLE	PROJECT NAME & ADDRESS	CLIENT NAME	EPC CONTRACTOR:	DRAWING BY:	DESIGN ENGINEER:	SIGNATURE	CHECKED BY:	SHEET NO:
CABLE SCHEDULE 2 OF 3	APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH	 UNHCR United Nations High Commissioner for Refugees.						09 OF 16
								DATE:
								25-08-2026

PROJECT: Camp 16 Registration Center

Maximum Building Height	4950MM (16' - 1")
Roof Type	Metal Roof
Code Used for Design	NFPA 780 2008 Edition [Code: 4.8.2.4]
Material Class	Class - 1Material according to NFPA 780 [Code: 3.3.21]

RISK INDEX AS PER BNBC 2020									
DESCRIPTION	INDEX A	INDEX B	INDEX C	INDEX D	INDEX E	INDEX F	INDEX G	TOTAL INDEX FIGURE	Recommend
Small Building	4	5	2	10	6	2	21	50	LPS Required

Details of Materials used in LPS Installation

Serial Nos	Type of Conductor	Specification	Material Type	Remarks
1	Air Terminal	Material	Copper (Solid)	
		Height	2' - 0"	
		Diameter	15 mm	
2	Base Plate	Material	Copper (Solid)	
		Thickness	4 mm	
		Diameter	6" x 6"	
3	Loop Conductor	Material	Copper Wire (Solid)	
		Diameter	7 mm	
4	Down Conductor	Material	Copper Wire (Solid)	
		Diameter	7 mm	
5	Bonding Conductor	Material	Copper Wire (Solid)	
		Diameter	7 mm	
6	Earth Electrode	Material	Copper (Solid)	
		Diameter	15 mm	

General Notes:

1	The required depth should be obtained by earth electrode to maintain less than 10 ohm earth resistance
2	The earth inspection pit has a earth bus bar with the dimension of 5" x 1" x 5 mm
3	All the additional metal structure (Metal Stair, Metal Pipe, Dish Antena) has to be bonded with the LPS by using Bonding Conductor.

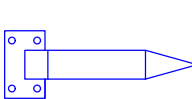
General Notes

LEGEND:

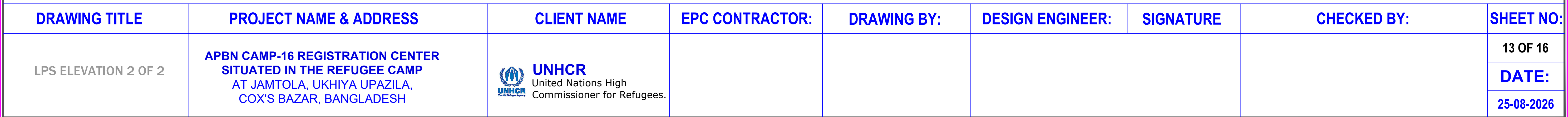
BI-METALIC JOINT 

EARTH PIT 

CONDUCTOR 

AIR TERMINAL 

DRAWING TITLE	PROJECT NAME & ADDRESS	CLIENT NAME	EPC CONTRACTOR:	DRAWING BY:	DESIGN ENGINEER:	SIGNATURE	CHECKED BY:	SHEET NO:
LPS NOTES	APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH	 UNHCR United Nations High Commissioner for Refugees.						10 OF 16
								DATE:
								25-08-2026





Drawing Title	Project Name & Address	Client Name	EPC Contractor:	Drawing By:	Design Engineer:	Signature	Checked By:	Sheet No:
EARTHING DETAIL	APBN CAMP-16 REGISTRATION CENTER SITUATED IN THE REFUGEE CAMP AT JAMTOLA, UKHIYA UPAZILA, COX'S BAZAR, BANGLADESH	 UNHCR United Nations High Commissioner for Refugees.						15 OF 16
								DATE:
								25-08-2026